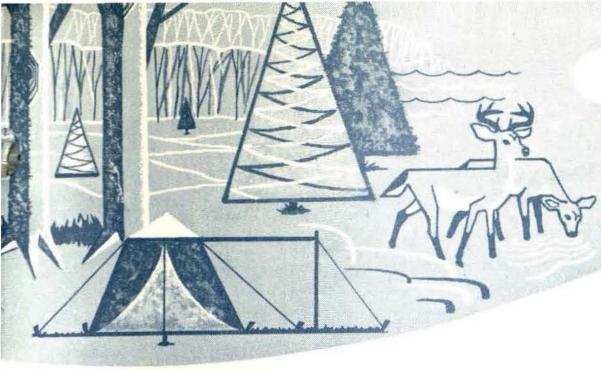

U. S. FOREST SERVICE

RESEARCH NOTE NC-59

NORTH CENTRAL FOREST EXPERIMENT STATION, FOREST SERVICE—U.S. DEPARTMENT OF AGRICULTURE

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Lake States Pulpwood Production Drops Seven Percent, 1967

ABSTRACT. — This twenty-second annual report shows the Lake States pulpwood harvest decreased to about 4 million cords from a record high of 4¼ million cords in 1966. Pulpwood receipts remained high in Wisconsin but decreased in Michigan and Minnesota. Minnesota shipped 106,000 cords more to Wisconsin than in 1966. As a result, only Minnesota's 1967 pulpwood production was higher than the previous year.

After a sharp rise in 1966, the Lake States pulpwood harvest declined to 3,965,000 cords in 1967, a decrease of 7 percent (table 1). This decrease was partially due to a leveling off of national paper and board inventories after a large buildup in 1966. The national output of paper and board, 46.6 million tons in 1966, dropped to 45.9 million tons in 1967. This was the first decline since 1957.

Pulpwood production varied among the three Lake States in 1967. Michigan showed the greatest decline, its harvest down 14 percent from the 1966 level. Production in Wisconsin decreased 8 percent, while the Minnesota harvest actually inched upward 3 percent.

The roundwood cut, which made up 95 percent of the region's total pulpwood production in 1967, totaled 3.75 million cords. The remaining 5 percent consisted of mill residues such as wood chips, slabs, and veneer cores. Shipment of these residues to local, central states, and Canadian pulp mills was up 40,000 cords from 1966.

The aspen roundwood cut, which constitutes the largest portion of the pulpwood harvest in the Lake States, dropped 10 percent in 1967. It fell short of the 1966 cut by 131,000 cords in Michigan, 71,000 cords in Wisconsin, and 20,000 cords in Minnesota. The pine harvest, 152,000 cords less than in 1966, showed a large decline in all three States. The hemlock cut also decreased 65,000 cords, with three-fifths of the change occurring in Michigan. On the other hand, spruce and tamarack output, mostly from Minnesota, increased 42,000 and 33,000 cords, respectively.

The sudden interest in tamarack may reflect recognition of its high density and good yields using the Kraft process. For example, the density of tamarack is 31 pounds per cubic foot (moisture-free weight, green volume) whereas the density of jack pine is 25 pounds per cubic foot. Assuming both species will yield 48 percent unbleached Kraft pulp,[1] the weight of moisture-free pulp produced per cord of rough logs will be about 1,160 pounds for tamarack, compared to only 935 pounds for jack pine. Thus, the yield from tamarack, using the Kraft process, may be nearly a fourth greater than the yield from jack pine. Tamarack yield also compares favorably with hemlock, balsam fir, and spruce under similar pulping conditions. In

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[1] *Based on data from Pulp Yields for Various Processes and Wood Species, Research Note FPL-031, U.S. Dept. of Agriculture, Forest Products Laboratory. 1964.*

Table 1. — *Production and imports of pulpwood, Lake States, 1967*
(In standard cords, unpeeled)

Species and destination	Production by states[1]				Imports			
	Minnesota	Wisconsin	Michigan	Region total	Other U.S.[2]	Canada	Total imports	Total receipts
Aspen								
Minn.	542,386	500	-	542,886	-	7,743	7,743	550,629
Wis.	49,056	737,864	327,002	1,113,922	-	1,689	1,689	1,115,611
Mich.	-	378	318,720	319,098	42	3,439	3,481	322,579
Total	591,442	738,742	645,722	1,975,906	42	12,871	12,913	1,988,819
Balsam fir								
Minn.	48,432	-	-	48,432	-	-	-	48,432
Wis.	27,595	47,578	64,382	139,555	-	-	-	139,555
Mich.	-	-	25,975	25,975	-	20,277	20,277	46,252
Exported[3]	-	-	56	56	-	-	-	-
Total	76,027	47,578	90,413	214,018	-	20,277	20,277	234,239
Birch, white								
Minn.	1,285	-	-	1,285	-	-	-	1,285
Wis.	1,983	40,825	4,746	47,554	-	-	-	47,554
Mich.	-	-	6,265	6,265	-	-	-	6,265
Total	3,268	40,825	11,011	55,104	-	-	-	55,104
Hemlock								
Minn.	-	-	-	-	-	-	-	-
Wis.	-	42,269	57,789	100,058	-	-	-	100,058
Mich.	-	-	2,115	2,115	-	-	-	2,115
Total	-	42,269	59,904	102,173	-	-	-	102,173
Pine								
Minn.	144,078	-	-	144,078	-	35,081	35,081	179,159
Wis.	57,609	174,058	75,934	307,601	105,424	2,642	108,066	415,667
Mich.	-	-	117,335	117,335	-	-	-	117,335
Total	201,687	174,058	193,269	569,014	105,424	37,723	143,147	712,161
Spruce								
Minn.	106,712	-	-	106,712	674	7,920	8,594	115,306
Wis.	89,672	13,438	55,354	158,464	4,229	145,076	149,305	307,769
Mich.	23	-	19,509	19,532	-	61,260	61,260	80,792
Exported[3]	21,250	-	122	21,372	-	-	-	-
Total	217,657	13,438	74,985	306,080	4,903	214,256	219,159	503,867
Tamarack								
Minn.	1,591	-	-	1,591	-	-	-	1,591
Wis.	38,274	2,478	1,325	42,077	-	-	-	42,077
Mich.	-	-	-	-	-	-	-	-
Total	39,865	2,478	1,325	43,668	-	-	-	43,668
Misc. hardwoods								
Minn.	17,743	-	-	17,743	-	7,443	7,443	25,186
Wis.	20,809	241,718	38,997	301,524	-	-	-	301,524
Mich.	-	-	160,640	160,640	356	-	356	160,996
Exported[3]	-	4,293	-	4,293	-	-	-	-
Total	38,552	246,011	199,637	484,200	356	7,443	7,799	487,706
Total roundwood								
Minn.	862,227	500	-	862,727	674	58,187	58,861	921,588
Wis.	284,998	1,300,228	625,529	2,210,755	109,653	149,407	259,060	2,469,815
Mich.	23	378	650,559	650,960	398	84,976	85,374	736,334
Exported[3]	21,250	4,293	178	25,721	-	-	-	-
Total	1,168,498	1,305,399	1,276,266	3,750,163	110,725	292,570	403,295	4,127,737
Residues, softwood								
Minn.	4,724	-	-	4,724	-	-	-	4,724
Wis.	1,635	6,193	2,604	10,432	124,070	-	124,070	134,502
Mich.	-	-	-	-	-	-	-	-
Exported[3]	1,081	4,172	-	5,253	-	-	-	-
Total	7,440	10,365	2,604	20,409	124,070	-	124,070	139,226
Residues, hardwood								
Minn.	16,825	14,217	-	31,042	282	-	282	31,324
Wis.	11,793	81,143	31,394	124,330	16	-	16	124,346
Mich.	-	-	33,748	33,748	3,677	-	3,677	37,425
Exported[3]	-	5,412	-	5,412	-	-	-	-
Total	28,618	100,772	65,142	194,532	3,975	-	3,975	193,095
All wood material								
Minn.	883,776	14,717	-	898,493	956	58,187	59,143	957,636
Wis.	298,426	1,387,564	659,527	2,345,517	233,739	149,407	383,146	2,728,663
Mich.	23	378	684,307	684,708	4,075	84,976	89,051	773,759
Exported[3]	22,331	13,877	178	36,386	-	-	-	-
Total	1,204,556	1,416,536	1,344,012	3,965,104	238,770	292,570	531,340	4,460,058

1/ Vertical columns of figures under box heading "Production by States" present the amount of pulpwood cut in each State.

2/ Mostly Western States.

3/ Pulpwood shipped to mills outside of Region.

addition, the average price of tamarack per rough cord (f.o.b. cars) in northern Minnesota during 1967 was lower than the average for the other softwood pulping species except pine, which was 50 cents to 1 dollar a cord less than tamarack.[2]

Lake States pulp mills received nearly 4½ million cords of pulpwood, 3/10 million cords less than in 1966. Receipts were down 23 percent in Michigan and 10 percent in Minnesota, but up 1 percent in Wisconsin. The Lake States supplied 89 percent of the roundwood, Canada 6 percent, and western states 5 percent (table 2).

[2] *Based on data from Minnesota Forest Products Marketing and Pricing Review, Office of Iron Range Resources and Rehabilitation, 1967.*

Several shifts in procurement patterns were noted in the region. Wisconsin mills received 106,000 more cords of pulpwood from Minnesota than in 1966, but 7,000 cords less from Michigan, their principal source of out-of-state wood. Of the increased volume of wood shipped to Wisconsin from Minnesota, 31,000 cords were tamarack, normally a little-used species. Imports from states outside the region rose 49,000 cords, including 35,000 cords of softwood chips. These mill residues from western states accounted for 5 percent of the pulpwood consumed in Wisconsin. Canadian imports declined 11 percent in 1967. The amount of spruce purchased from Canada, after rising 65,000 cords in 1966, fell 59,000 cords in 1967. However, pine purchases were up 28,000 cords.

Table 2. — *Geographic origin and destination of pulpwood received by Lake States mills, 1967*

Species	Percent of pulpwood originating from:					Percent of pulpwood received by mills in:		
	Minn.	Wis.	Mich.	Canada	Other U. S.	Minn.	Wis.	Mich.
Aspen	30	37	32	1	*	28	56	16
Balsam fir	32	20	39	9	-	21	59	20
Birch	6	74	20	-	-	2	86	12
Hemlock	-	41	59	-	-	-	98	2
Pine	28	25	27	5	15	25	58	17
Spruce	39	3	15	42	1	23	61	16
Tamarack	91	6	3	-	-	4	96	-
Misc. hardwoods 1/	8	49	41	2	*	5	62	33
Residues	10	31	20	-	39	11	78	11
All wood material	27	32	30	6	5	22	61	17
Previous year (1966)	24	32	33	7	4	22	57	21

1/ Mostly dense hardwoods.
* Less than 1/2 of one percent.

1968

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